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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jari Liimatainen

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BUCHANAN, INGERSOLL & ROONEY PC
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EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

05/29/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No. 10/531,871	Applicant(s) LIIMATAINEN, JARI	
	Examiner WEIPING ZHU	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-17 and 22-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-17 and 22-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/11/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-5, 8-17 and 22-29 are currently under examination, wherein claims 1-5 and 8-15 have been amended and claims 22-29 have been newly added in applicant's amendment filed on March 12, 2008.

Status of Previous Rejections

2. The previous rejections of claims 1-5 and 8-17 as stated in the Office action dated October 12, 2007 have been maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 8-17 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oskarsson et al. (US 4,869,974) in view of Runkle (US 5,290,507).

Claims 1-5 and 8-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oskarsson et al. ('974) in view of Runkle ('507) as stated in the Office action dated October 12, 2007.

With respect to the amended features of claims 1-5 and 8-15, the grounds of rejections of these claims as stated in the Office action dated October 12, 2007 are applied properly herein.

With respect to new claim 22, Oskarsson et al. ('974) disclose that the hard material comprises carbide, nitrides , oxides , borides etc. (col. 1, lines 34-50).

With respect to new claim 23, Oskarsson et al. ('974) disclose that the hotworking comprises rolling (col. 4, lines 7-12).

With respect to new claims 24 and 25, the hot isostatic pressing step of Oskarsson et al. ('974) in view of Runkle ('507) (Runkle ('507) col. 1, lines 18-35) reads on the claimed features.

With respect to new claim 26, Oskarsson et al. ('974) disclose that the hot-worked parts are heat-treated (col. 3, lines 8-19).

With respect to the new claim 27, Oskarsson et al. ('974) disclose that the hard material is mechanically joined to steel layers to form a sandwich structure with alternate lamellas (col. 3, lines 23-32).

With respect to the new claim 28, Oskarsson et al. ('974) disclose that the hard material is predensified (col. 4, lines 13-16).

With respect to the new claim 29, Oskarsson et al. ('974) disclose that the tough material has a hardness of about 200 HV (i.e. less than 25 HRC as claimed) (col. 3, lines 23-32).

Response to Arguments

4. The applicant's arguments filed on March 12, 2008 have been fully considered but they are not persuasive.

First, the applicant argues that CIP and HIP are very different; Oskarsson et al. ('974) teach away from using HIP; and HIP will reduce anisotropy while the entire point

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of Oskarsson et al. ('974) is to obtain a lamellar structure, which is highly anisotropic at least in one direction. In response, the examiner notes that as stated in the Office action dated October 12, 2007, HIP and CIP are functionally equivalent in terms of densifying powders; Oskarsson et al. ('974) do not teach away from using HIP by stating that CIP is preferred to produce a powder blank (col. 4, lines 33-38) without excluding HIP; new active surfaces would also be created when a hot-isostatically-pressed part is extruded, because the HIP bonds the particles thermally and mechanically while the CIP bonds the particles mechanically only, wherein the particles have not lost their integrity in both HIP and CIP; and the anisotropy within the layers of the hard material of Oskarsson et al. ('974) will be reduced by HIP, which is desirable for the lamellar structure of Oskarsson et al. ('974). It is further noted that it is a common practice in the art to extrude the hot-isostatically-pressed parts.

Second, the applicant argues that the amounts of carbide-forming additives are in the range of 30-70 vol. %, which is much higher than the claimed range of 3-20 wt. %. In response, the examiner notes that Oskarsson et al. ('974) in view of Runkle ('507) disclose that the amount of ceramic particles is 30-70 vol. % of the hard material (Oskarsson et al. ('974), col. 1, lines 34-40), which reads on the ceramic particle amount less than 50 wt. % of the powder mixture as claimed. Oskarsson et al. ('974) in view of Runkle ('507) do not disclose the content of carbide-forming additives as claimed. See the reason for the rejection of the claimed feature in the paragraph bridging pages 4 and 5 in the Office action dated October 12, 2007.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

WZ

5/22/2008